① $\arccos\left(\frac{\sqrt{3}}{2}\right)$

② $\arcsin\left(\frac{\sqrt{2}}{2}\right)$

$90°$ $\quad \frac{\pi}{6}, 30°$

$= \frac{\pi}{2} - \tan^{-1}\left(\frac{\sqrt{3}}{3}\right)$

$\tan 30° = \frac{\sqrt{3}}{3}$

$\tan 60° = \sqrt{3}$

③ $\cot^{-1}\left(\frac{\sqrt{3}}{3}\right) = \frac{\pi}{3}, 60°$

$\cot^{-1} x = \frac{\pi}{2} - \tan^{-1}(x)$

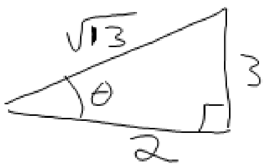
④ $\csc^{-1}(1.9543) = 30.5°$

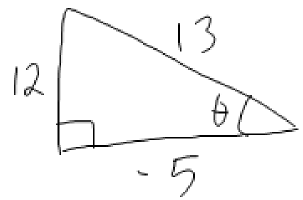
≈ 0.53 radians

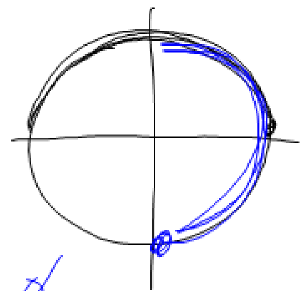
$\csc^{-1} x = \sin^{-1}\left(\frac{1}{x}\right)$

⑤ $\sin\left(\underset{\text{define }\triangle}{\underline{\overset{\theta}{\tan^{-1} 3/2}}}\right) = \frac{3}{\sqrt{13}}$ or $\frac{3\sqrt{13}}{13}$

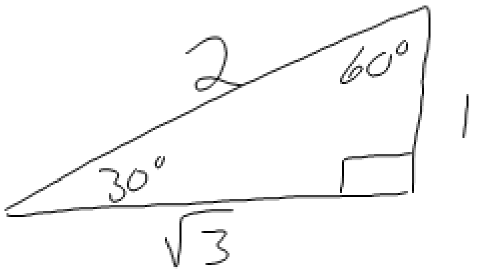
⑥ $\tan\left(\overset{\theta}{\cos^{-1} -\frac{5}{13}}\right) = -\frac{12}{5}$

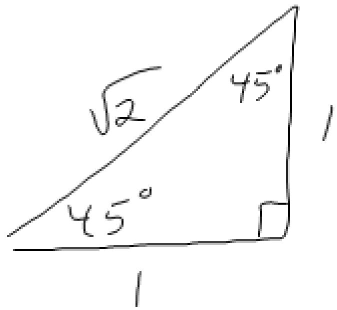






$\sin^{-1}(1.95) = \emptyset$





$\frac{1}{\sqrt{2}}$

$\arccos\left(\frac{\sqrt{3}}{2}\right) = 30°$

What angle gives $\frac{\sqrt{3}}{2}$ for cos.

$\sqrt{3}$ is adjacent

2 is hyp.

$\arcsin\left(\frac{\sqrt{2}}{2}\right)$ $\frac{opp}{hyp}$ $= 45°$

What angle gives $\frac{\sqrt{2}}{2}$ for sine

$2^3 = 8$

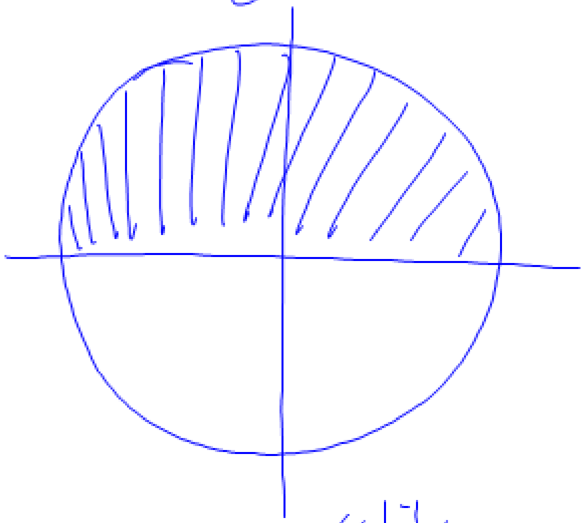
$\tan 30^\circ = \frac{\sqrt{3}}{3}$

$\sqrt[3]{8} = 2$

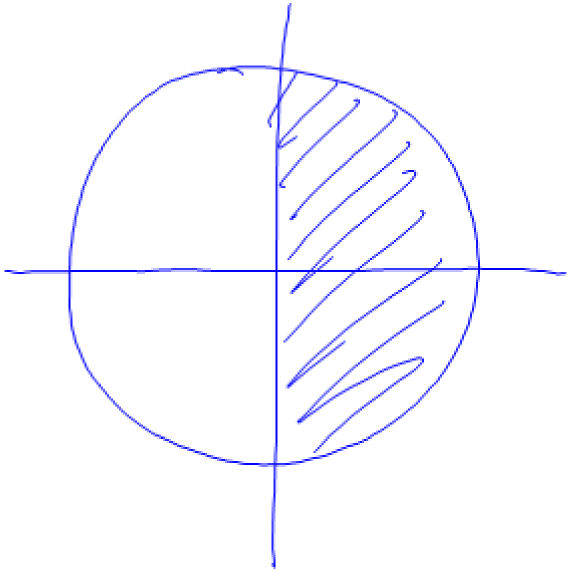
$\tan^{-1}\left(\frac{\sqrt{3}}{3}\right) = 30^\circ$

6.1 #21-24 radians, 33-36 degree, 43-46 calculator, 53-55 calculator, 63-66 make triangle

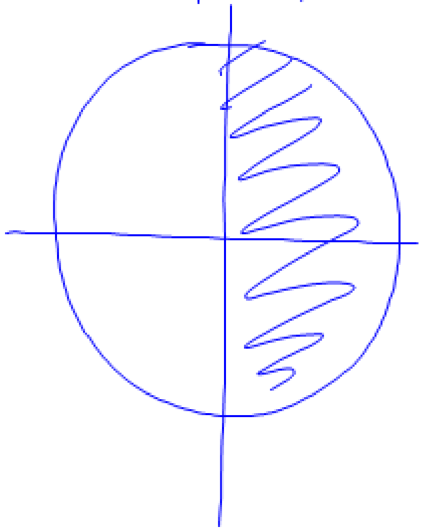
$\cos^{-1} x$



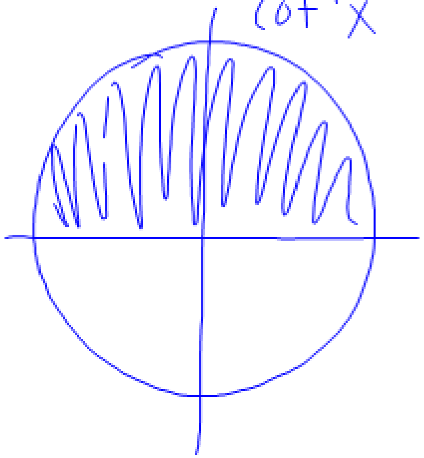
$\sin^{-1} x$



$\tan^{-1} x$



$\cot^{-1} x$



Find all x $[0, 360^\circ)$

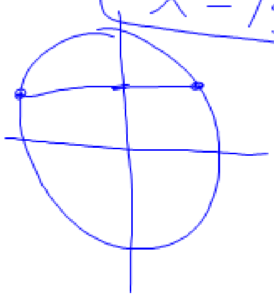
$$2\sin x - 1 = 0$$
$$\quad +1 \quad +1$$

$$\frac{2\sin x}{2} = \frac{1}{2}$$

$$\cancel{\sin^{-1}}\,\sin x = \frac{1}{2}$$

$$x = \sin^{-1}\left(\frac{1}{2}\right)$$

$$\boxed{x = 30^\circ}$$
$$\boxed{x = 150^\circ}$$



$$\sin x \tan x = \sin x$$

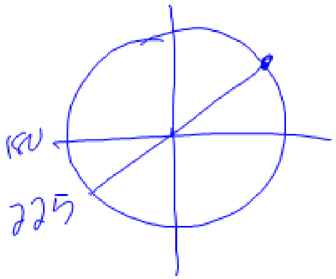
$$\sin x \tan x - \sin x = 0$$

$$(\sin x)(\tan x - 1) = 0$$

$$\sin x = 0, \quad x = \sin^{-1}(0), \quad \boxed{x = 0^\circ}$$
$$\boxed{x = 180^\circ}$$

$$\tan x - 1 = 0,$$

$$\tan x = 1$$
$$x = \tan^{-1}(1) \quad \boxed{x = 45^\circ}$$
$$\boxed{x = 225^\circ}$$



Homework

Study 6.1

Read/understand 6.2 examples 1-3